NC/QC/YD/2020-21/SS-GSB1 Date: 10-08-2020

TEST REPORT ON GRANULAR SUBBASE MIX
(GRADATION TEST)

Sub: To conduct tests on GSB (Grade-V) mix.
{Project*: Improvements to Sri Sainagara roads in ward no 03.}
Ref.: Material testing/QC/20-21,
Report Required for: Assistant Executive Engineer,
Yelahanka Satellite Town Sub Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: Sri. Kiran Gowda. D (Sri Channakeshawa Enterprises), Bangalore.

TEST RESULTS

1. **Gradation Test:**
TABLE 1.1

Sieve Size mm	Percent by Weight passing the Sieve from the sample supplied (Obtained Gradation)	Specified Limits as per MoRTH Specifications, V Revision-2013
75.00	100.00	100
53.00	97.25	80-100
26.50	81.05	55-90
9.50	52.90	35-65
4.75	46.70	25-50
2.36	16.25	10-20
0.85	8.55	2-10
0.425	4.10	0-5

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EMAIL:newzen576@gmail.com

Date: 10-08-2020

TABLE 1.2

SL No	Test conducted	Test Results	Tests Conforms to IS 2386(Part I to IV)– 1963 (Reaffirmed on 2002) & Requirements as per IS 383-1970 & M o R T H Specification, V Revision -2013.
1.	Water absorption, %	**0.42 %**	Not more than 2.0 %
2.	Liquid Limit, %	**18.36**	Not more than 25.0 %
3.	Plasticity Index, %	**NP**	Not more than 6.0 %
4.	Moisture Content, %	**6.52**	----------
5.	Aggregate Impact Value, %	**28.69**	Not more than 40.00 %

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NC/QC/YD/2020-21/SS-W1 Date: 14-08-2020

TEST REPORT ON WET MIX MACADAM MIX

(GRADATION TEST)

Sub: To conduct Gradation test on Wet Mix Macadam (WMM) Mix.
{Project*: Improvements to Sri Sainagara roads in ward no 03.}
Ref.: Material testing/QC/20-21,
Report Required for: Assistant Executive Engineer,
Yelahanka Satellite Town Sub Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: Sri. Kiran Gowda. D (Sri Channakeshawa Enterprises), Bangalore.

TEST RESULTS

1. Gradation Test:

TABLE 1.1

Sieve Size mm	Percent by Weight passing the Sieve from the sample supplied (Obtained Gradation)	Specified Limits as per MoRTH Specifications, V Revision-2013
53.00	100.00	100
45.00	95.10	95-100
26.50	---	-
22.40	72.05	60-80
11.20	54.80	40-60
4.75	31.15	25-40
2.36	24.75	15-30
0.600	19.40	8-22
0.075	3.60	0-5

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EMAIL:newzen576@gmail.com

Date: 19-08-2020

TABLE 1.2

SL No	Test conducted	Test Results	Tests Conforms to IS 2386(Part I to IV)– 1963 (Reaffirmed on 2002) & Requirements as per IS 383-1970 & M.o.R.T.H Specification, V Revision -2013.
1.	Aggregate Impact Value	**27.63%**	Not more than 30.00 %
2.	Combined Flakiness and Elongation index, %	**28.49%**	Not more than 35.0 %
3.	Water absorption, %	**0.41 %**	Not more than 2.0 %
4.	Plasticity Index, %	**NP**	Not more than 6.0 %

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NC/QC/YD/2020-21/SS-BD1

Date: 24-08-2020

1. TEST REPORT ON BITUMEN SAMPLE:

Sub: Testing of Bitumen sample VG-30 Grade.
{Project*: Improvements to Sri Sainagara roads in ward no 03.}
Ref.: Material testing/QC/20-21,
Report Required for: Assistant Executive Engineer,
Yelahanka Satellite Town Sub Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: Sri. Kiran Gowda. D (Sri Channakeshawa Enterprises), Bangalore.
Technical Reference: Ministry of Road Transport and Highways, V Revision, 2013 and IS 73: 1992.

TABLE 1.1 ;

SL No	Details	Test Results	Requirements as per I.S 73 –1992 Specifications
1.	Penetration at 25^0 C	52.80^0 C	Min. 45
2.	Ductility Value at 25^0 C	107.90 cm	40
3.	Flash point	246^0 C	Minimum 220^0 C
4.	Softening point	51.60^0 C	Min. 47

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NC/QC/YD/2020-21/SS-CD1 Date: 24-08-2020

1. TEST REPORT ON COARSE AGGREGATE:

Sub: Testing of Coarse Aggregate used in Dense Graded Bituminous Macadam.
{Project*: Improvements to Sri Sainagara roads in ward no 03.}
Ref.: Material testing/QC/20-21,
Report Required for: Assistant Executive Engineer,
Yelahanka Satellite Town Sub Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: Sri. Kiran Gowda. D (Sri Channakeshawa Enterprises), Bangalore.

TABLE 1.1 ;

SL No	Test conducted	Test Results	Tests Conforms to IS 2386(Part I to IV)– 1963 (Reaffirmed on 2002) & Requirements as per IS 383-1970 & M.o.R.T.H Specification, V Revision -2013.
1.	Aggregate Impact Value	23.09%	Not more than 27.00 % for DBM
2.	Combined Flakiness and Elongation index, %	26.86%	Not more than 35.0 %
3.	Water absorption, %	0.42%	Not more than 2.0 %
4.	Specific gravity	2.62	-------
5.	Soundness	6.74 %	Max. 12 % in Sodium Sulphate

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NC/QC/YD/2020-21/SS-DS1

Date: 28-08-2020

1.TEST REPORT ON BITUMINOUS MIXES :
(STABILITY OF BITUMINOUS MIX)

Sub: To determine the stability of bituminous mix for DBM mix sample.
{Project*: Improvements to Sri Sainagara roads in ward no 03.}
Ref.: Material testing/QC/20-21,
Report Required for: Assistant Executive Engineer,
Yelahanka Satellite Town Sub Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: Sri. Kiran Gowda. D (Sri Channakeshawa Enterprises), Bangalore.

TEST RESULTS

Table 1: Properties of DBM (Gr-2) Mix

Sl. No.	Test Property	*Test results obtained by Marshall method	Requirements of Dense Bituminous Macadam, Grade-2 as per M.o.R.T&H (IV Revision)-2001 Specifications
1	Marshall Stability (75 blows) (At 60°C), kgs.	1238	900
2	Marshall Flow at 60°C, mm.	3.26	2.0 - 4.0

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NC/QC/YD/2020-21/SS-DBM2 Date: 27-08-2020

1.TEST REPORT ON BITUMINOUS MIXES :

(BITUMEN EXTRACTION TEST & GRADATION TEST)

Sub: To determine the percentage of bitumen and gradation for DBM mix sample.
{Project*: Improvements to Sri Sainagara roads in ward no 03.}
Ref.: Material testing/QC/20-21,
Report Required for: Assistant Executive Engineer,
Yelahanka Satellite Town Sub Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: Sri. Kiran Gowda. D (Sri Channakeshawa Enterprises), Bangalore.

TEST RESULTS

A. Type of Construction : **Dense Graded Bituminous Macadam.**
1. The bitumen content obtained after subjecting the sample for Bitumen Extraction test = **4.51%**

2. **Gradation Test**
TABLE 1.1

Sieve Size, mm	Percent by Weight passing the Sieve from the sample supplied (Obtained Gradation)	Gradation requirement as per Table 500-10 of MORTH Specfications-2013 DBM (Grading - 2)
37.5	100	100
26.5	94.60	90-100
19.0	80.40	71-95
13.20	76.25	56-80
4.75	48.10	38-54
2.36	36.85	28-42
0.300	16.20	7-21
0.075	7.05	2-8

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NC/QC/YD/2020-21/SS-BB1 Date: 24-08-2020

1. TEST REPORT ON BITUMEN SAMPLE:

Sub: Testing of Bitumen sample VG-30 Grade.
{Project*: Improvements to Sri Sainagara roads in ward no 03.}
Ref.: Material testing/QC/20-21,
Report Required for: Assistant Executive Engineer,
Yelahanka Satellite Town Sub Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: Sri. Kiran Gowda. D (Sri Channakeshawa Enterprises), Bangalore.
Technical Reference: Ministry of Road Transport and Highways, V Revision, 2013 and IS 73: 1992.

TABLE 1.1 ;

SL No	Details	Test Results	Requirements as per I.S 73 –1992 Specifications
1.	Penetration at 25^0 C	**51.30^0 C**	Min. 45
2.	Ductility Value at 25^0 C	**109.30 cm**	40
3.	Flash point	**239^0 C**	Minimum 220^0 C
4.	Softening point	**50.20^0 C**	Min. 47

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ಯಲಹಂಕ ಉಪನಗರ ಉಪವಿಭಾಗ.
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NC/QC/YD/2020-21/SS-CB1 **Date: 24-08-2020**

1. TEST REPORT ON COARSE AGGREGATE:

Sub: Testing of Coarse Aggregate used in Bituminous Concrete.
{Project*: Improvements to Sri Sainagara roads in ward no 03.}
Ref.: Material testing/QC/20-21,
Report Required for: Assistant Executive Engineer,
Yelahanka Satellite Town Sub Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: Sri. Kiran Gowda. D (Sri Channakeshawa Enterprises), Bangalore.

TABLE 1.1 ;

SL No	Test conducted	Test Results	Tests Conforms to IS 2386(Part I to IV)– 1963 (Reaffirmed on 2002) & Requirements as per IS:383-1970 & M.o R.T.H Specification, V Revision -2013.
1.	Aggregate Impact Value	**22.93 %**	Not more than 24.00 %
2.	Combined Flakiness and Elongation index, %	**27.56 %**	Not more than 35.0 %
3.	Water absorption, %	**0.42%**	Not more than 2.0 %
4.	Specific gravity	**2.62**	-------
5.	Soundness	**5.41%**	Max. 12 % in Sodium Sulphate

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NC/QC/YD/2020-21/SS-BS1

Date: 29-08-2020

1.TEST REPORT ON BITUMINOUS MIXES :
(STABILITY OF BITUMINOUS MIX)

Sub: To determine the stability of bituminous mix for BC mix sample.
{Project*: Improvements to Sri Sainagara roads in ward no 03.}
Ref.: Material testing/QC/20-21,
Report Required for: Assistant Executive Engineer,
Yelahanka Satellite Town Sub Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: Sri. Kiran Gowda. D (Sri Channakeshawa Enterprises), Bangalore.

TEST RESULTS

Table 1: Properties of BC (Gr-2) Mix

Sl. No.	Test Property	*Test results obtained by Marshall method	Requirements of Bituminous Concrete, Grade-2 as per M.o.R.T&H (V Revision)-2013 Specifications
1	Marshall Stability (75 blows) (At 60°C), kgs.	1362	900
2	Marshall Flow at 60°C, mm.	3.46	2.0 - 4.0

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NC/QC/YD/2020-21/SS-BC2

Date: 28-08-2020

1.TEST REPORT ON BITUMINOUS MIXES :
(BITUMEN EXTRACTION TEST & GRADATION TEST)

Sub: To determine the percentage of bitumen and gradation for BC mix sample.
{Project*: Improvements to Sri Sainagara roads in ward no 03.}
Ref.: Material testing/QC/20-21,
Report Required for: Assistant Executive Engineer,
Yelahanka Satellite Town Sub Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: Sri. Kiran Gowda. D (Sri Channakeshawa Enterprises), Bangalore.

TEST RESULTS

A. Type of Construction : **Bituminous Concrete**
1. The bitumen content obtained after subjecting the sample for Bitumen Extraction test = **5.43%**

2. **Gradation Test**
TABLE 1.1

Sieve Size, mm	Percent by Weight passing the Sieve from the sample supplied (Obtained Gradation)	Gradation requirement as per Table 500-17 of MORTH Specfications-2013 BC (Grading - 2)
19.0	100	100
13.2	94.10	90-100
9.5	83.70	70-88
4.75	68.90	53-71
2.36	52.35	42-58
1.18	40.05	34-48
0.600	32.65	26-38
0.300	22.15	18-28
0.150	18.95	12-20
0.075	8.20	4-10

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NC/QC/YD/2020-21/SS-BS2 Date: 29-08-2020

1.TEST REPORT ON BITUMINOUS MIXES :

(STABILITY OF BITUMINOUS MIX)

Sub: To determine the stability of bituminous mix for BC mix sample.

{Project*: Improvements to Sri Sainagara roads in ward no 03.}

Ref.: Material testing/QC/20-21,

Report Required for: Assistant Executive Engineer,
Yelahanka Satellite Town Sub Division,
BBMP, Bangalore.

Name of the Agency/Contractor*: Sri. Kiran Gowda. D (Sri Channakeshawa Enterprises), Bangalore.

TEST RESULTS

Table 1: Properties of BC (Gr-2) Mix

Sl. No.	Test Property	*Test results obtained by Marshall method	Requirements of Bituminous Concrete, Grade-2 as per M.o.R.T&H (V Revision)-2013 Specifications
1	Marshall Stability (75 blows) (At 60°C), kgs.	1354	900
2	Marshall Flow at 60°C, mm.	3.42	2.0 - 4.0

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